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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,707	02/05/2002	Alain Houle	CISCP730	1909
26541	7590	12/17/2004	EXAMINER	
RITTER, LANG & KAPLAN 12930 SARATOGA AE. SUITE D1 SARATOGA, CA 95070			KIM, DAVID S	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,707

Applicant(s)

HOULE ET AL.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 25 October 2002
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s):

(claims 7, 14, 21, and 31) wherein said first modulated optical signal and said second modulated optical signal have substantially similar power levels.

No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-2, 5-10, 13-18, 20-28, and 31-33** are rejected under 35 U.S.C. 102(e) as being anticipated by Swanson et al. (U.S. Patent No. 6,433,904 B1, hereinafter "Swanson").

Swanson discloses:

(claim 1) A method for transmitting a WDM signal:

modulating a first optical signal on a first wavelength with a first data signal having a first data rate to generate a first modulated optical signal having a first bandwidth (channel 1 in Fig. 3);

modulating a second optical signal on a second wavelength with a second data having a second data rate to generate a second modulated optical signal having a signal having a second bandwidth (channel 2 in Fig. 3), said second bandwidth being greater than said first bandwidth (example of OC-48 channel 1 and OC-192 channel 2 in col. 6, l. 11-26) and said WDM signal comprising said first modulated optical signal and said second modulated optical signal; and

applying an error correction coding to said second data signal so that said second data signal experiences a greater coding gain than said first data signal (FEC encoder 40).

(claim 2) The method of claim 1 wherein said error correction coding comprises Reed-Solomon coding (col. 7, l. 5-6).

(claim 5) The method of claim 1 wherein said first data signal comprises an OC-48 signal and said second data signal comprises an OC-192 signal (example of OC-48 channel 1 and OC-192 channel 2 in col. 6, l. 11-26).

(claim 6) The method of claim 1 further comprising:

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multiplexing said first modulated optical signal and said second modulated optical signal together to form said WDM signal (combiner 16 in Fig. 3).

(claim 7) The method of claim 1 wherein said first modulated optical signal and said second modulated optical signal have substantially similar power levels when multiplexed together (Fig. 2C).

(claim 8) The method of claim 1 wherein no error correction coding is applied to said first data signal (no FEC encoder for channel 1 in Fig. 3).

(claim 9) A method of receiving a WDM signal, said method comprising:

demodulating a first modulated optical signal derived from said WDM signal to form a first recovered data signal, said first modulated optical signal having a first bandwidth (channel 1 in Fig. 3);

demodulating a second modulated optical signal derived from said WDM signal to form a second recovered data signal (channel 2 in Fig. 3), said second modulated optical signal having a second bandwidth greater than said first bandwidth (example of OC-48 channel 1 and OC-192 channel 2 in col. 6, l. 11-26); and

decoding (FEC decoder 42) said second recovered data signal in accordance with an error correction coding scheme wherein said error correction coding scheme of said second recovered data signal compensates for a lower signal to noise ratio of said second modulated optical signal relative to said first modulated optical signal (col. 5, l. 19-32; col. 6, l. 11-26).

(claim 10) The method of claim 9 wherein said error correction coding scheme comprises a Reed-Solomon encoding scheme (col. 7, l. 5-6).

(claim 13) The method of claim 9 wherein said first recovered data signal comprises an OC-48 signal and said second recovered data signal comprises an OC-192 signal (example of OC-48 channel 1 and OC-192 channel 2 in col. 6, l. 11-26).

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(claim 14) The method of claim 9 wherein said first modulated optical signal and said second modulated optical signal are received with substantially similar power levels (Fig. 2C).

(claim 15) The method of claim 9 wherein said first recovered data signal is not encoded for error correction (no FEC encoder and no FEC decoder for channel 1 in Fig. 3).

(claims 16-18 and 20) Claims 16, 17, 18, and 20 introduce limitations that correspond to limitations introduced by claims 1, 8, 2, and 1, respectively. Therefore, the recited limitations in claims 1-2 and 8 read on the corresponding limitations in claims 16-18 and 20.

(claim 21) The WDM transmission system of claim 16 further comprising:
a first amplifier (e.g., amplifier 1 in Fig. 3) that amplifies said first modulated optical signal; and

a second amplifier (e.g., amplifier 2 in Fig. 3) that amplifies said second modulated optical signal, wherein amplified power levels of said first modulated optical signal and said second modulated optical signals are substantially similar (Fig. 2C).

(claims 22-28 and 31-33) Claims 22, 23, 24, 25, 26, 27, 28, 31, 32, and 33 introduce limitations that correspond to limitations introduced by claims 6, 5, 9, 13, 15, 9, 10, 14, 1, and 9, respectively. Therefore, the recited limitations in claims 1, 5-6, 9-10, and 13-15 read on the corresponding limitations in claims 22-28 and 31-33.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 3-4, 11-12, 19, and 29-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson in view of the admitted prior art.

Regarding these claims, Swanson does not expressly disclose these limitations, but the admitted prior art shows that these limitations are well known and conventional to apply.

(claim 3) The method of claim 2 wherein said Reed-Solomon coding comprises coding in accordance with the G.975 standard (Applicant's specification, p. 9-10 bridging paragraph).

(claim 4) The method of claim 2 wherein said Reed-Solomon coding comprises coding in accordance with the G.709 standard (Applicant's specification, p. 9-10 bridging paragraph).

(claims 11-12) Claims 11 and 12 introduce limitations that correspond to limitations introduced by claims 3 and 4, respectively. Therefore, the recited steps in method claims 3-4 read on the corresponding steps in method claims 11-12.

(claims 19) Claim 19 introduces limitations that correspond to limitations introduced by claim 3. Therefore, the recited steps in method claim 3 read on the corresponding means in system claim 19.

(claims 29-30) Claims 29 and 30 introduce limitations that correspond to limitations introduced by claims 3 and 4, respectively. Therefore, the recited steps in method claims 3-4 read on the corresponding means in system claims 29-30.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alexander et al. is cited to show a WDM transmission system with some channels

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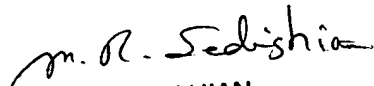
that are error-corrected and some channels that are not. Taylor is cited to show a WDM transmission system that interfaces with data signals having respectively differing data rates. Dishman et al. is cited to show an optical transmission system with some channels that are error-corrected and some channels that are not.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DSK


M. R. SEDIGHIAN
PRIMARY EXAMINER